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10/766,603	01/27/2004	Robert Gregory Wagoner	03GP9129	3390

7590 05/16/2007  
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EXAMINER
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CAVALLARI, DANIEL J

ART UNIT	PAPER NUMBER
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2836

MAIL DATE	DELIVERY MODE
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05/16/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/766,603

Applicant(s)

WAGONER ET AL.

Examiner

Daniel J. Cavallari

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>translation of JP 06189469 A</u>       |

### **DETAILED ACTION**

The examiner acknowledges a submission of the amendment filed on 2/12/2007.

The amendments to claim 1 and new claim 17 are accepted.

### ***Response to Arguments***

Applicant's arguments filed 2/12/2007 have been fully considered but they are not persuasive.

The applicant argues that Kojima fails to teach "uninterrupted load current to said load during a transfer between said first and said second power converter". The Examiner respectfully disagrees and points out that the invention of Kojima is that of an "Uninterruptible power supply" (See Kojima, Title). More specifically, Kojima specifically teaches how the system disconnects one of the power converters from the system while maintaining uninterruptible load current via the other connected converters (See Kojima translation, Paragraph 6).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-13, & 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kojima (JP 06189469 A).

Art Unit: 2836

In regard to Claim 11

- A first contactor (2A) having an input selectively coupled to a first power converter (3A,4A) (See Figure 4).
- A second contactor (2B) having an input selectively coupled to a second power converter (3B, 4B) (See Figure 4).
- A controlled current path (8A-C) coupled to the output of the first and second contactor and to a load (10) for providing uninterrupted power to the load during a transfer between first and second power converters (See Abstract).

In regard to Claim 12

- The first and second contactors comprising a pair of contactors, read on by 7A & 7B (See Figure 4).

In regard to Claim 13

- The first and second contactors (2A, 7A & 2B, 7B) being separate contactors.

In regard to Claim 16

- A battery (5C) coupled to an input of the first converter (13A) and said second converter (13B) using diodes (14A, 14B) (See Figure 1).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 & 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima and Glennon (US 6,037, 752).

In regard to Claim 1, 3, 8, 9, & 10

Kojima teaches selectively coupling a first or second converter (9A, 9B) (See Figure 1 and Abstract) to a load (10) and disconnecting one of said converters ( ie. opening switches 2A & 12A) (See Figure 1 & Abstract). Kojima fails to explicitly teach the type of converters used.

Glennon teaches a power supply system with a IGBT converter comprising a rectifier (70) and inverter (74) which utilizes a power semiconductor switch (Q3) in series with a diode (CR10) (See Figure 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the IGBT converter taught by Glennon into the power supply system of Kojima. The motivation would have been to provide a switching system which is well known in the art and take advantage of the small size and light weight of IGBT components.

Art Unit: 2836

Kojima further teaches:

In regard to Claim 2

- A first contactor (2A) having an input selectively coupled to a first power converter (3A,4A) (See Figure 4).
- A second contactor (2B) having an input selectively coupled to a second power converter (3B, 4B) (See Figure 4).

In regard to Claim 4

- The first and second contactors comprising a pair of contactors, read on by 7A & 7B (See Figure 4).

In regard to Claim 7

- A battery (5C) coupled to an input of the first converter (13A) and said second converter (13B) using diodes (14A, 14B) (See Figure 1).

Claims 5 & 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima, Glennon, and Heebner (US 5,353,665).

Kojima teaches the use of a contactor (2A, 2B) (See Figure 4 & Abstract) but fails to explicitly teach the type of contactor used.

Heebner teaches the use of a multi-pole break before make type relay for use of power delivery and further explains that "Most relays are multi-pole break before make type..." (See Column 5, Lines 15-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the multi pole make break before make relay in place of the contactors taught by Kojima who fails to explicitly teach the type of contactors used. The motivation would have been to use a switch that is well known in the art and readily available.

Claims 14 & 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kojima and Heebner.

Kojima teaches the use of a contactor (2A, 2B) (See Figure 4 & Abstract) but fails to explicitly teach the type of contactor used.

Heebner teaches the use of a multi-pole break before make type relay for use of power delivery and further explains that "Most relays are multi-pole break before make type..." (See Column 5, Lines 15-30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the multi pole make break before make relay in place of the contactors taught by Kojima who fails to explicitly teach the type of contactors used. The motivation would have been to use a switch that is well known in the art and readily available.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sinha (US 2003/0062775) and Kojima (JP 06189469 A).

Sinha teaches:

A switch (34) with a first and second contactor (read on by the contacts connected to the grid (30) and generator (32) (See Figure 1) and a controller commutating current path (read on by the current path (38) to the critical load (24), See Figure 1) coupled to the first and second contactor for providing uninterruptible load current tot the load during a transfer between the first and second power supplies wherein only one of said power supplies (30 or 32) is coupled to the load at a given time (See Figure 1 & Paragraph 15-16).

Sinha teaches the power supply system comprising a single converter (28) used to converter power from the two different sources (30 or 32) (See Figure 1) and fails to teach providing a separate converter for each power supply. Kojima teaches providing each power supply it's own converter (See Figure 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide both power supply 30 and 32 of Sinha with it's own converter as opposed to a single converter between the two devices. The motivations would have been to provide better reliability therefore if a converter fails, the system could switch to the alternate source (and converter).



***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2836

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

May 3, 2007



**CHAU N. NGUYEN**  
**PRIMARY EXAMINER**